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(54) Applicator mitt

(57) This applicator mitt includes an inner pouch 12 and an outer pouch 14 providing a cover for the inner pouch. The inner pouch includes an outer face receiving a treating substance m and is formed from a pair of panels, attached on two sides and one end and having an open mouth at its other end to receive the hand portion of the user. The outer pouch is formed from

a pair of panels peelable sealed to each other and permanently welded to the inner pouch adjacent its mouth so that these panels may be stripped back to expose the inner pouch treating substance but remain attached to the inner pouch during use. To prevent inadvertent sealing of the inner pouch mouth, a facing strip or strips 28 of release silicone or other seal inhibiting material e.g. a fabric is disposed between internal margins of the inner pouch mouth.

STOR/ B07 47131 K/20 = FR 2515-520
 Disposable applicator glove for tooth paste, shoe polish etc. with inner and outer bag consisting of specified twin foil layers
 LAVERN STORANDT D 30.10.81-US-316654
 A96 D22 P21 P32 P34 P42 + P28 P73 Q34 (06.05.83) *DE3240-214 A61m-35 B32b-27/06 + A471-23/10
 29.10.82 as 018217 (39MR)
 Applicator glove for toothpaste, healing ointment, fingernail lacquer remover or shoe cream, consists of an inner flat bag which is sealed on three sides and left open at the fourth. Its forward part is coated with the medicament. The outer bag acts as a protective shell and consists, like the inner bag, of an outer foil or tissue and an inner weldable foil.
 Such applicator gloves are easy to make on mass production lines at low enough cost for a disposable article. (21pp)

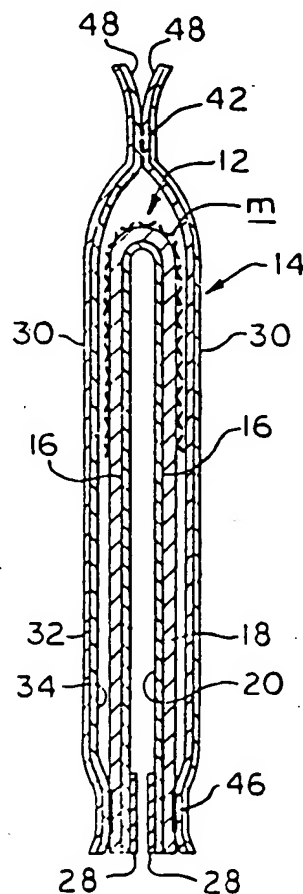
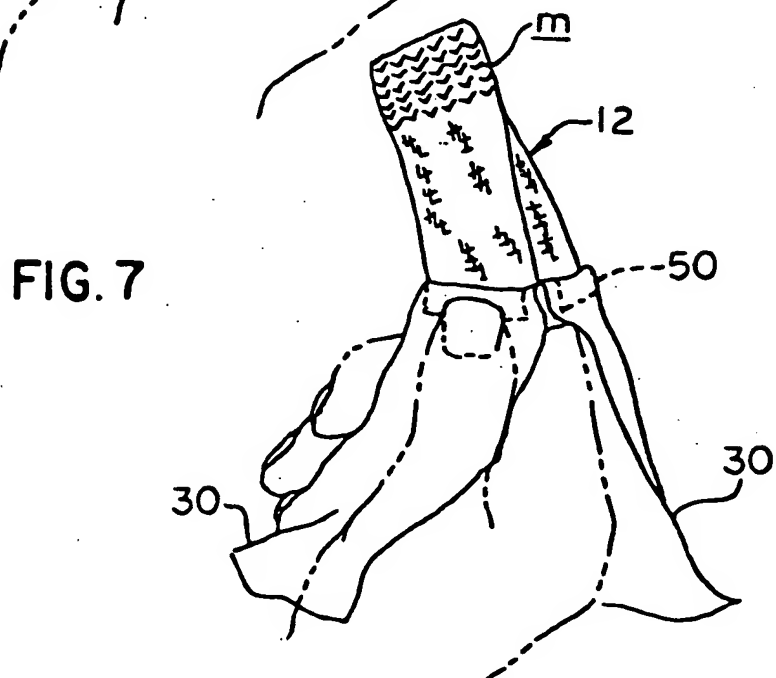
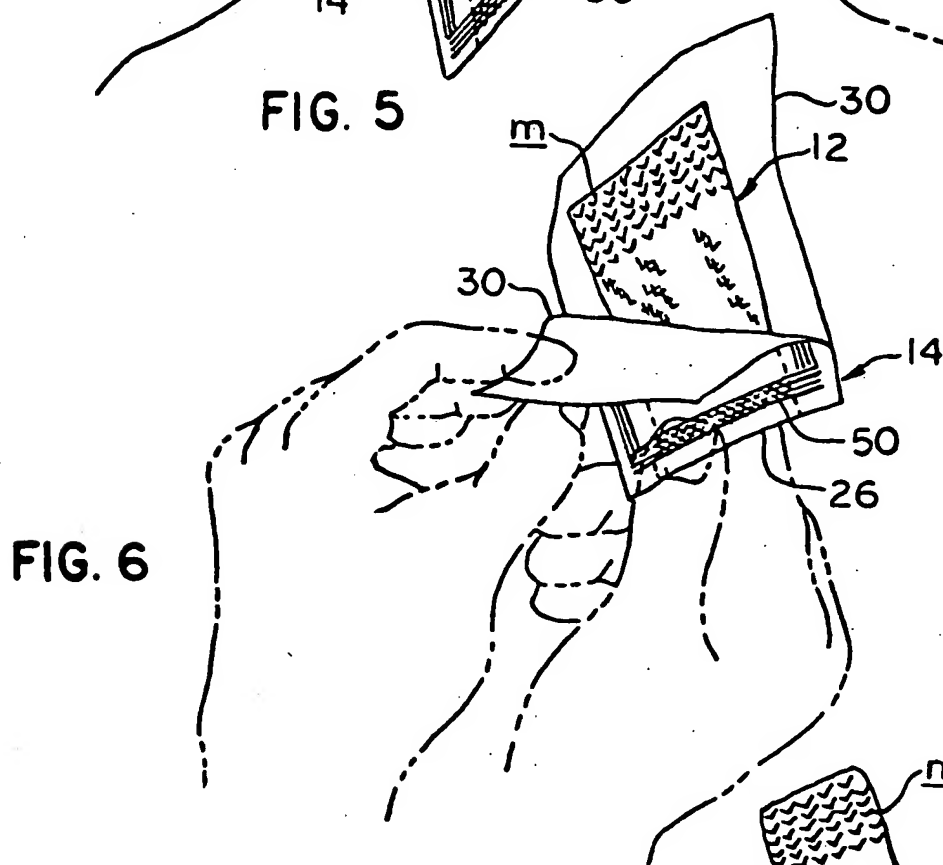
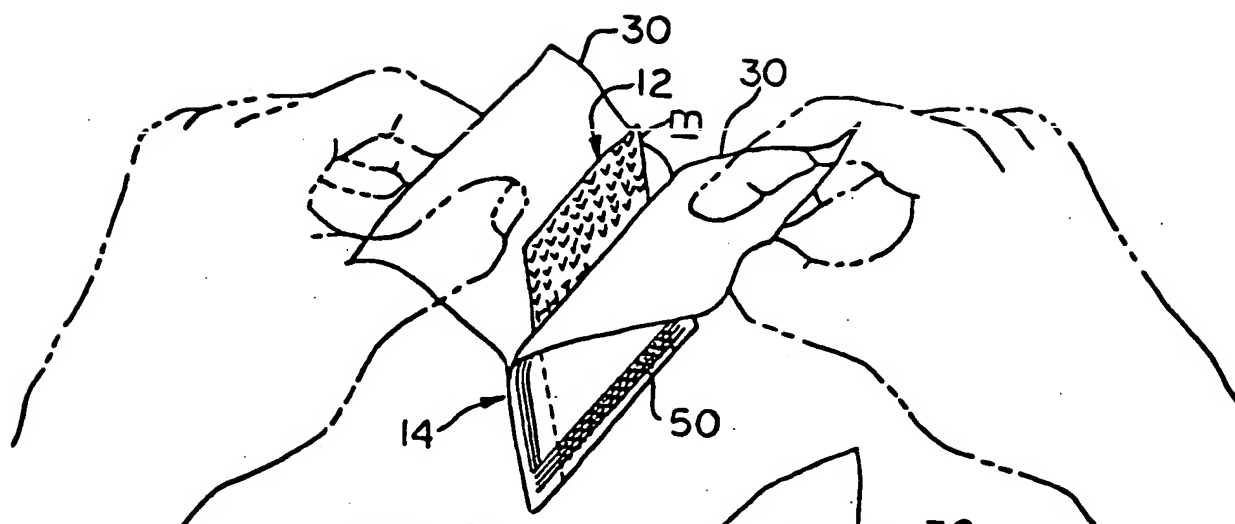
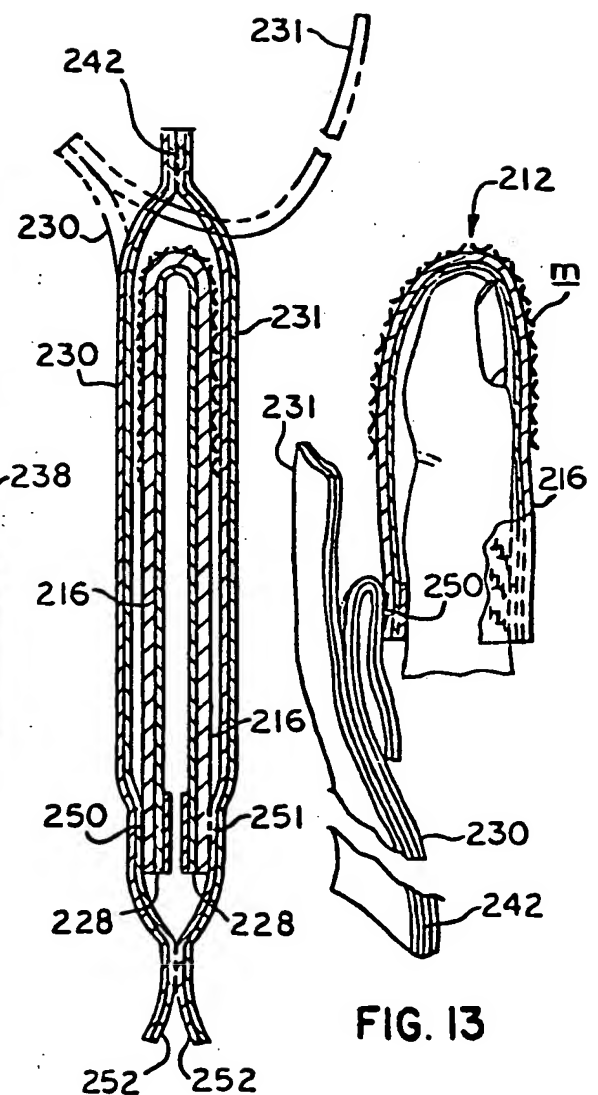
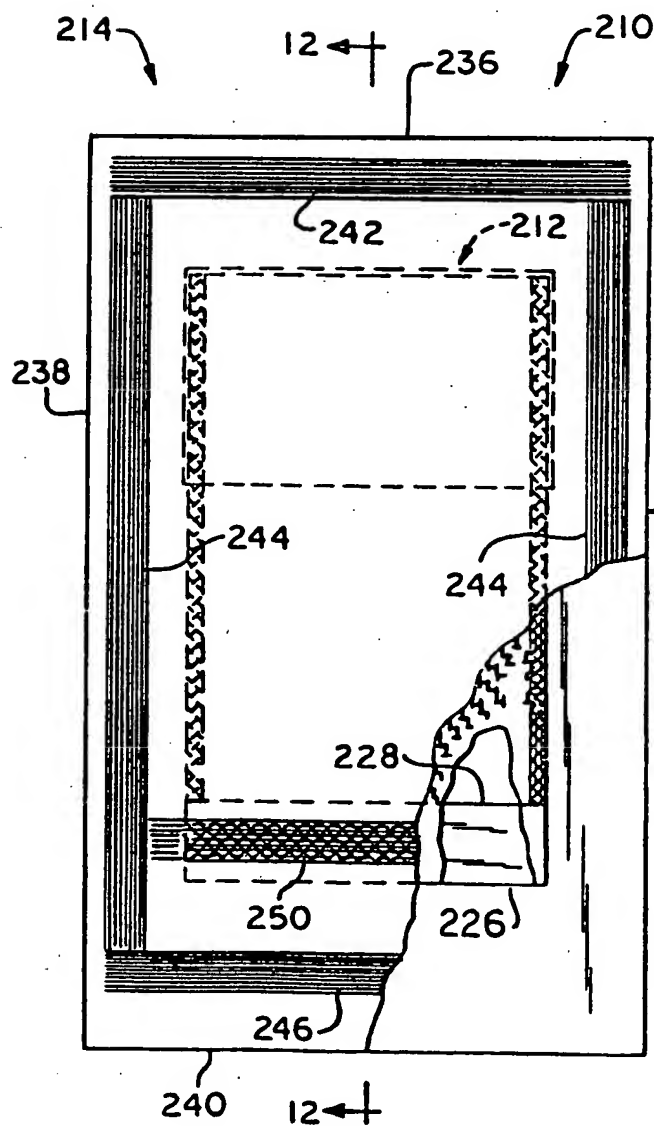
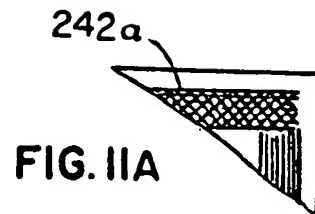


FIG. 3

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SPECIFICATION

Applicator mitt

This invention relates generally to an applicator device and more particularly to a device in the nature of a treated mitt receiving a portion of the hand and having a protective cover removable to expose the treated portion of the mitt during use.

Applicator devices of the general type under consideration are used for applying medicament to various body portions and can be used, for example, for applying dentrifice to the teeth of the user or ointment to injured parts of the user. They can also be used for the hand application of other treating substances, such as shoe polish, when it is desirable that such substances not come into contact with the skin of the user.

Applicators of this type provide that the treating substance is not exposed until ready for use and for this reason a combination package is provided in which an inner portion of the package, contains the treating substance on its outer face, and the inner portion is protected by an outer portion of the package, which can be removed so that the inner portion can receive the hand portion of the user and so that the treating substance can be exposed.

In particular, the applicator mitt which forms the subject matter of this invention represents an improvement over U.S. Patent No. 3,608,566, U.S. Patent No. 3,608,708 and U.S. Patent No. 3,675,264 issued to the present inventor. The first of these patents discloses an applicator mitt having an inner pouch and an outer cover, which is opened by means of a tear strip to expose the inner pouch; the second patent discloses an applicator mitt formed from continuous inner and outer webs; and the third patent discloses an applicator mitt adapted to protect additional hand portions during use.

With applicator mitts of the above type heat and pressure sealing the inner and outer cover component parts represents a preferred method of construction. However, the particular structural arrangement of the component parts of such devices has not been such as to facilitate this kind of manufacture on a mass production basis. In particular the blocking or sealing of the entry to the inner pouch has presented problems.

The present applicator device solves these and other problems in a manner not revealed in the known prior art.

This applicator mitt provides a disposable package unit having an improved sealing system which can be manufactured using a combination of sealing techniques, on a mass production basis.

The applicator mitt includes an inner pouch having a pair of panels with opposed side margins and opposed end margins; means attaching the side margins and the end margins at one end of said panels to each other; and means interposed between said panels at the other end of said panels, to provide separable margin portions defining a handportion-receiving entry opening into the pouch. The mitt also includes an outer

pouch covering for the inner pouch, said outer pouch having a pair of panels with opposed side margins and opposed end margins; and means sealingly attaching said side margins and said end margins to each other to substantially seal the outer face of the inner pouch from ambience when the outer pouch is in place, said attaching means also including means substantially permanently attaching adjoining inner and outer panels to each other in the vicinity of the inner pouch opening whereby said inner and outer pouches remain attached, when said outer pouch is removed to expose said inner pouch.

In one aspect of this invention the inner pouch facing means includes opposed layers of high-release silicone, while in another aspect of the invention the facing means includes opposed layers of fabric nonsealable to each other.

In yet another aspect of the invention the side margins of the outer pouch and one of said end margins are attached by peel-seals.

In still another aspect of the invention the outer pouch panels are substantially coterminus with the inner pouch panels at the end adjacent the inner pouch end opening, and the end margins of the outer pouch panels at the end opposite the inner end opening are attached by peel-seals and the outer pouch panel and the adjoining inner pouch panel on both sides of the inner pouch are attached by weld-seals.

In still another aspect of the invention the outer pouch panels extend beyond the inner pouch panels at both ends and the end margins of the outer pouch panels at both of said ends are attached by peel-seals, and the outer pouch panel and the adjoining inner pouch panel on at least one side of said inner pouch are attached by a weld-seal.

In another aspect of the invention the outer pouch panels extend beyond the inner pouch panels at both ends, the end margins of the outer pouch panels at both ends are attached by peel-seals, and the outer pouch panel and the adjoining inner pouch panel on only one side of said inner pouch, are attached by a weld-seal.

In yet another aspect of the invention the inner pouch panels include an inner ply of heat-sealable plastic film and the outer pouch panels include an inner ply of heat-sealable plastic film.

In still another aspect of the invention the inner pouch panel includes an outer ply of porous material receiving the treating substance.

In another aspect of the invention the outer pouch panel includes an outer ply of ornamentation receiving material.

FIG. 1 is a front elevational view of said applicator mitt with the outer pouch cut away to show the enclosed inner pouch;

FIG. 2 is a cross-sectional view thereof taken on line 2—2 of FIG. 1;

FIG. 3 is a longitudinal sectional view thereof taken on line 3—3 of FIG. 1;

FIG. 3A is a fragmentary view, similar to FIG. 3, showing a modified inner pouch entry construction;

FIG. 4 is a longitudinal sectional view thereof, reduced in size relative to FIG. 3, illustrating the use of the mitt with the inner pouch medicament area exposed;

- 5 FIGS. 5, 6, and 7 are perspective views illustrating sequential separating of the outer cover to expose the inner cover;

FIG. 8 is a front elevational view of a modified applicator mitt;

- 10 FIG. 9 is a longitudinal sectional view thereof taken on line 9—9 of FIG. 8;

FIG. 10 is a longitudinal sectional view thereof reduced in size relative to FIG. 9 illustrating the use of the mitt;

- 15 FIG. 11 is a front elevational view of another modified applicator mitt;

FIG. 11A is a fragmentary view similar to FIG. 11 showing a modified upper panel attachment;

- 20 FIG. 12 is a longitudinal sectional view thereof taken on line 12—12 of FIG. 11; and

FIG. 13 is a longitudinal sectional view thereof reduced in size relative to FIG. 11, illustrating the use of the mitt.

- 25 Referring now by reference numerals to the drawings and first to FIGS. 1 thru 4 it will be understood that the applicator mitt, generally indicated by numeral 10, includes an inner pouch 12 and an outer pouch 14, said outer pouch providing a removable cover for the inner pouch 12.

The inner pouch 12 consists of a pair of laminated panels 16 which, in the preferred embodiment, include outer and inner plies 18 and 20. The outer ply 18 is formed of absorbent material such as woven or non-woven fabric, paper, polyester or the like. The inner ply 20 is formed of polyethylene or similar moisture-proof sealable film or coating which can be permanently applied to the outer ply 18. The upper end margins 22 of each panel 16 are attached, in the preferred embodiment, by virtue of using a single folded piece of material to make both panels.

- Alternatively, separate panels can be used attached as by permanently weld-sealing the material of the inner plies 18 together. The side margins 24 are attached as by sealing the material of the inner plies 20 together at weld-seal zones 25. The lower end margins 26 are unattached by virtue of interposing a single facing strip or two opposed facing strips 28 therebetween.

As shown in FIG. 3, the facing strips 28 may be formed from a layer of high-release material, such as silicone or the like, which will not block or seal to itself under normal heat, dwell-time and pressure conditions experienced in modern flexible packaging procedures used to form, fill and seal packing of the type under consideration herein.

- Alternatively, as shown in FIG. 3A, in which only one facing strip is shown, the facing strip may be formed from a single strip 29 of material having an inner layer 29a and an outer layer 29b. The inner layer 29a is formed from a moisture-proof film material such as polyethylene coating which is

sealingly attachable to the pouch inner ply 20, and said outer ply 29b is formed from a material such as non-woven fabric, polyester film or the like, which will not substantially block or seal to itself under normal heat, dwell-time and pressure conditions as discussed above. It will be readily understood that if desired two such laminated strips 29 can be used.

The upper portion of the outer face of the inner pouch panels 16, as indicated by *M*, is coated with medicament such as dentrifice or healing ointment or with other treating substance such as shoe polish, nail polish remover and the like.

The outer pouch 14, constitutes a cover for the inner pouch 12 and is removable to expose the medicament *M*. The outer pouch 14 consists of a pair of laminated panels 30 which, in the preferred embodiment, include outer and inner plies 32 and 34, respectively, which are coterminus at the lower end with the inner pouch panels 16. The outer ply 32 is essentially a protective material, which is substantial enough to provide the outer pouch with sufficient stability to permit processing through packaging machinery, and is usually formed of paper, foil, polyester, polyethylene, polypropylene or the like. The outer face of this outer ply is usually overprinted with informational material pertaining to the overall applicator mitt package 10 and such graphics may be provided with a final outer protective coating or film (not shown). The inner ply 34 is formed of polyethylene, or similar sealable film or coating, which can be permanently applied to the outer ply 32. The material of the inner ply 34 is also such that it can be peel-sealed or weld-sealed to itself and to the outer ply 18 of the inner pouch panel 16.

The term peel-seal is to be understood to mean the sealing attachment of two or more plies of sealable material such that they can be separated from each by a relatively light pull not much in excess of the pull required to remove the backing from a pressure sensitive label. The term weld-seal, on the other hand, is understood to mean the attachment of two or more plies of sealable material such that they are substantially permanently attached and are not readily detached from each other and tend to tear the surrounding material when such detachment is attempted. The type of seal achieved depends on the particular combination of pressure, heat, dwell-time, adhesive, coating and pattern application consistent with the web or film lamination material selected, as is well understood by those skilled in the art.

In the embodiment shown in FIGS. 1 thru 4, the upper margins 36 and side margins 38 of the outer pouch panels 30 are attached as by sealing the material of the inner plies 34 to produce peel-seal zones 42 and 44 respectively. The lower margins 40 are attached at their ends, and at their intermediate portion, as by sealing the material of the inner plies 34 to each other at peel-seal zones 46 and sealing the inner plies 34 to the relatively thick outer plies 18 of the inner pouch at weld-seal zones 50. The weld-sealing of the inner plies

is facilitated by virtue of the nature of the type of material in contact. The result of this overall attachment is that the treating material *M* is substantially sealed from ambience.

5 As shown particularly in FIG. 3, the peel-seal zone 42 is sufficiently spaced from the upper end of the panels 30 to provide a pair of lips 48 which may be grasped between the forefinger and thumb of the user to permit the outer pouch panels 30 to be pulled away from each other and peeled part way down, as shown in FIG. 5. At this point, as shown in FIG. 6 the forefinger of one hand can be inserted within the inner pouch opening defined by the separable lower end margins 26 and the outer panels 30 pulled down fully, as shown in FIG. 7, until they reach the point of permanent attachment with the inner pouch 12 provided by the weld-seal zone 50. At this time, the medicament *M* coating the outer face at the upper end of the inner pouch 12 is exposed, and the front panel 30 can be grasped between the thumb and the palm of the hand of the user to provide a "handle" which permits the inner pouch 12 to be sealably retained on the forefinger and firmly held in place and controlled by movement of the forefinger. In the event that the medicament *M* is dentrifice, this arrangement of parts provides a "toothbrush-like" handle structure which is ready for use.

30 The applicator mitt 10 is particularly useful when used with dry treating substances such as dentrifice which do not require a dependable, three hundred and sixty degree (360°) moisture seal or barrier. In the event that a complete seal is required for this type of package, in the potential leakage areas, at areas of varying ply thickness at the bottom corners of the package, additional sealing at the corners may be necessary, which can be provided by double sealing zones 46.

40 Referring now to the modified applicator mitt disclosed in FIGS. 8 thru 10, and generally indicated by numeral 110, it will be understood that the inner pouch 112 is substantially identical to the inner pouch 12 of applicator mitt 10 described above. The outer pouch 114 is similar in many respects to the outer pouch 14 of applicator mitt 10 but distinguishes therefrom by incorporating certain important features, as will now be described.

50 The outer pouch 114 of applicator mitt 110 includes a pair of opposed panels 130 having the same laminated construction as discussed above with respect to applicator mitt 10. The panels 130 include upper margins 136, side margins 138 and lower margins 140. The upper margins 136 are attached at a peel-seal zone 142 and the side margins 138 are likewise attached at a peel-seal zone 144. Distinguishing from the outer pouch panels of the applicator mitt 10, the lower margins 140 of panels 130 are attached at a peel-seal zone 146, which is spaced beyond the lower margins 126 of the inner pouch 112. The inner and outer pouches 112 and 114 are substantially permanently attached to each other. In the embodiment shown, the inner and outer pouch

panels 116 and 130, on both sides of the inner pouch 112, are attached at a weld-seal zone 150. The peel-seal zone 146 is sufficiently spaced from the lower end of the outer panels 130 to provide a pair of lips 152 similar to lips 148 provided at the upper end.

The applicator mitt 110 is conditioned for use in generally the same way as the applicator mitt 10 in that the lips 148 provide a means by which the outer pouch front panels 130 are pulled away from each other and peeled downwardly. The lips 152, on the other hand, provide a means of pulling the panels 130 away from each other at the lower end to provide entry into the opening provided by the separable margins 126. As will readily be understood, once the forefinger has been partially inserted into the inner pouch the outer pouch panels 130 can be pulled downwardly until the point of attachment defined by weld-sealing zone 150 is reached as clearly shown in FIG. 10.

The applicator mitt 110 outer pouch 114 provides a complete two-ply, three-hundred and sixty degree (360°) moisture seal around the inner pouch 112 and is less susceptible to leaking problems of the type which may be encountered with seals which are made across areas of varying ply thickness such as the lower corners of applicator mitt 10. Additional sealing means, such as the peel-seal zone 147 may be provided between the weld-seal zone 150 and the peel-seal zones 144 to prevent moisture leaking from the outer surface carrying the treating substance *M* to the interior of the inner pouch 112 in the event that a wet treating substance is used.

100 Referring now to the applicator mitt generally indicated by numeral 210, in FIGS. 11 thru 13, it will be understood that the inner pouch 212 is substantially identical to that of applicator mitts 10 and 110. Again, the outer pouch 214, although similar to the outer pouch 14 of applicator mitt 10, distinguishes from said applicator mitt 10 in certain important features as will now be described.

The outer pouch 214 includes a pair of opposed panels 230 and 231 having the same laminated construction as discussed above with respect to applicator mitt 10. The panels 230 and 231 include upper margins 236, side margins 238 and lower margins 240. As shown in FIG. 11 the upper margins 236 of panels 230 and 231 are attached at peel-seal zone 242. The side margins 238 of panels 230 are attached at peel-seal zones 244 and the lower margins 240 are attached at peel-seal zone 246 which is spaced beyond the lower margins 226 of the inner pouch 212.

In the embodiment shown, on one side of the applicator mitt the inner and outer pouch panels 216 and 230 respectively are attached at a weld-seal zone 250. However, on the other side of the applicator mitt, the inner and outer pouch panels 216 and 231 are attached by means of a peel-seal zone 251 or alternatively, the inner and outer pouch panels 216 and 231 on said other side of the mitt 210 can be unattached. The lower peel-seal zone 246 is sufficiently spaced from the lower

end of the outer panels 230 to provide a pair of lips 252.

As will be understood from the above description the applicator mitt 210 is similar to applicator mitt 110 in that the outer pouch 214 provides a complete two-ply seal around the inner pouch 212.

The applicator mitt 210 is conditioned for use by the user grasping the lips 252 between the forefinger and thumb and pulling the panels apart from each other. The inner and outer pouches 212 and 214 remain attached on the side on which the weld-seal 250 is located but are peeled free from each other on the other side, by virtue of the peel-seal 251, to the position shown in phantom outline. At this point, the forefinger of the user can be inserted into the inner pouch 212. In the event that a relatively dry treating substance *M* is used on the inner pouch 212, such as powdered dentrifice, the outer panel 231 can be separated from the outer panel 230 at the peel-seal zone 242, by giving an extra tug to the inner panel 231, and the outer panel discarded and the peeling of the panel 230 can be continued until the single panel 230 reaches the weld-seal zone 250. At this stage, the panel 230 can be grasped between the thumb and the palm of the user and is ready for use as a "handle" in substantially the same way as discussed above with respect to applicator mitt 10.

In the event that the inner pouch 212 is coated with a relatively wet treating substance *M*, the user can grasp the upper margins 236 and pull said panels downwardly into a face-to-face condition with panels 230 and 231 ending up as shown in FIG. 13, so that the panels 230 and 231 cooperate to enclose the treating substance which had adhered to the inner face of the panels. As will be understood this arrangement protects the user, at least to some extent, from contact with such treating substance.

A modified construction of the applicator mitt 210 is shown in FIG. 11A in which the upper margins 236 are attached at a weld-seal zone 242a. This particular attachment has the advantage that it permits the panels 230 and 231 to more readily remain attached during removal of the cover.

CLAIMS

1. An applicator mitt comprising an inner pouch including a pair of panels having opposed side margins and opposed end margins, said panels providing an outer face and an inner face, means attaching said side margins and said end margins at one end of said panels to each other, and means interposed between said panels, at the other end of said panels, said interposed means being attached to at least one panel but being operatively substantially non-sealingly attachable to the other panel to provide separable margin portion defining a handportion-receiving entry opening into the pouch, an outer pouch covering for said inner pouch, said outer pouch including a pair of panels having opposed side margins and

opposed end margins, and means sealingly attaching said side margins and said end margins to each other to substantially seal the outer face of the inner pouch when the outer pouch is in place, said attaching means also including means substantially permanently attaching adjoining inner and outer panels to each other in the vicinity of the inner pouch opening whereby, said inner and outer pouches remain attached when said outer pouch is removed to substantially expose said inner pouch outer surface.

2. An applicator mitt as defined in claim 1, in which said inner pouch facing means include opposed layers of high-release silicone.

3. An applicator mitt as defined in claim 1, in which said inner pouch facing means include opposed layers of fabric.

4. An applicator mitt as defined in claim 1, in which the side margins of the outer pouch are attached by peel-seals, the outer pouch panels are substantially coterminous with the inner pouch panels at the end adjacent the inner pouch end opening and the end margins of the outer pouch panels at the end opposite the inner end opening are attached by peel-seals, and the outer pouch panel and the adjoining inner pouch panel on both sides of said inner pouch are attached by weld-seals.

5. An applicator mitt as defined in claim 1, in which the side margins of the outer pouch panels are attached by peel-seals, the outer pouch panels extend beyond the inner pouch panels at both ends, and the end margins of the outer pouch panels at both of said ends are attached by peel-seals, and the outer pouch panel and the adjoining inner pouch panel, on at least one side of said inner pouch, are attached by a weld-seal.

6. An applicator mitt as defined in claim 1, in which the side margins of the outer pouch panels are attached by peel-seals, the outer pouch panels extend beyond the inner pouch panels at both ends, the end margins of the outer pouch panels at both ends are attached by peel-seals, and the outer pouch panel and the adjoining inner pouch panel on only one side of said inner pouch, are attached by a weld-seal.

7. An applicator mitt as defined in claim 1, in which the inner pouch panels include an inner ply of heat sealable plastic film, and the outer pouch panels include an inner ply of heat sealable plastic film.

8. An applicator mitt as defined in claim 7, in which the inner pouch panel includes an outer ply of medicament receiving porous material.

9. An applicator mitt as defined in claim 7, in which the outer pouch panel includes an outer ply of ornamentation receiving material.

10. An applicator mitt as defined in claim 1, in which the side margins of the outer pouch panels are attached by peel-seals.

11. An applicator mitt as defined in claim 10, in which the outer pouch panels extend beyond the inner pouch panels at both ends, the end margins of the outer pouch panels at the end opposite the inner end opening are attached by a weld-seal,

and the outer pouch panel and the adjoining inner pouch panel on only one side of said inner pouch are attached by a weld-seal.

12. An applicator mitt as defined in claim 1, in
5 which sealing means is provided between the weld-seal and the side margin seals to prevent

moisture leaking from the outer face of the inner pouch to the interior of the inner pouch.

13. An applicator mitt substantially as herein
10 described with reference to the accompanying drawings.